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ABSTRACT

With the necessity of having a college degree to participate in today's society, there is increased pressure on young people to enroll in college and become fully functioning, independent members of society. The financial toll that college takes on students has created a need for students whose parents cannot pay their full tuition or have financial aid cover the costs to step up to fill the economic gap. This has created two distinct groups of college students- those who work and those who do not. By analyzing the time use activities of each group, this research shows that working students spend less time on most activities. Each hour that a student spends working causes a deduction in time that they spend on class, homework, and sleeping.

INTRODUCTION

The environment that college students face today is unique and demanding in ways that are much different than those that older generations have experienced. There are numerous pressures demanding their time, including work, family, and friends, aside from their educational responsibilities. Time allocation is an important issue for students because it impacts their educational experience and success, as well as their lives outside of the classroom. Each day students need to make decisions about how they are going to allocate their time between different responsibilities and activities, resulting in a number of trade-offs; more time spent on one activity comes at the cost of time that could have been spent on another. Students who are working have their jobs as an additional contender for their time, which ultimately leads to less time spent on a variety of other activities, including time spent in classes, on homework, or sleeping.

The study of time use is a noteworthy topic in sociology, and has been historically, which provides a basis for a comparative analysis of time use of different groups of people. By studying how people use their time, it is possible to infer what their values are. People make time for what is important to them, which makes the study of time use helpful in understanding different people groups. This thesis seeks to understand the experience that college students today are facing in terms of how they balance their time. In particular, this research examines how working college students spend time differently than more traditional, nonworking students, specifically in the areas of personal care, household activities, educational activities, socializing, relaxing, and leisure, sports, exercise, and recreation, religious activities, and volunteer activities.

LITERATURE REVIEW

Changes in College Time and Costs

Attending college has always been a privilege denied to many (Kim & Rury 2011), but an acceptance letter is not a guarantee of success for potential students. Once enrolled, college students face a new realm of challenges including how they are going to budget their time while attending school and how they are going to pay for their education. As the education system has undergone changes, students' options for how they are going to face these challenges change as well.

The expectations of how much time is needed to attend college have changed since the 1960s. Kim and Rury (2011) describe the pattern of the falling time cost of college since 1961, determining that college presents less of an opportunity cost for students now. They show that college in the 1960s, continuing until almost the turn of the century, was like a full-time job for students, costing students about 40 hours a week for classwork. Students were expected to dedicate their time solely on their academics while in college. The priority for students in the 1960s was their education, which was reflected in the time they spent pursuing their degree. In 2003, the time students spent on academics was estimated to be about 27 hours a week, which could be accounted for by advancements in technology. Although this is still a substantial amount of time, this shows that students can now successfully attend college while pursuing more time consuming activities, such as working.

The changes in the cost of college have been even more dramatic than the changes in time spent on classwork in college. Dwyer et al. (2012) investigates the trend of increases in

tuition, decreases in government grants, and increases in loans. Beginning in the 1970s, the college system was reformed in an attempt to offer more opportunities to a wider range of individuals, but as the number of enrolled students went up, so did tuition. Government grants did not keep pace with this, leaving larger numbers of students in need of loans to pay for their education. Beginning in the 1990s, private lenders were allowed to become involved the college funding process, which resulted in "an explosion of student debt in the 1990s and 2000s" (Dwyer et al. 2012: 1135). This new form of financing college has caused inescapable debt for almost all college students, creating the new challenge of attempting to stave off the worst of the burden of the loans.

This atmosphere of debt has created a new environment for current college students, forcing them to choose how they are going to handle their loans- with help from their parents, by living at home and commuting to school, by working while in school-although these solutions are not all-encompassing and do not solve the whole of their problem. These fiscal problems could all be factors explaining the downward trend in time on academics since the 1960s (Kim & Rury 2011). Although the intricacies of the "why" behind the decisions that students make with their time cannot be answered by this quantitative study, it is possible to determine how students are spending their time, which could shed light on their priorities and values.

Working and Commuting Students

Students who hold a job during their enrollment in college have an experience that is distinctive from that of their peers. Bozick (2007) analyzes the impacts of a student's economic

background and how that affects whether or not they hold a job during college, and further, how having a job can be a driving factor behind whether or not students continue in their college career. The students who fall into the "middle" of the income distribution, who are too wealthy to receive full financial assistance and too poor to have their families pay for their enrollment, are the most likely to spend a significant amount of time working off-campus to pay for their college expenses. The students who work more than 20 hours a week and also live at home are the most at risk for suffering detrimental impacts on their collegiate success due to the competing demands for their time and the stress that comes with it (Bozick 2007).

This information pairs with Galbraith and Merrill's (2012) argument that cynicism is a side effect of working and attending college at the same time. These both can explain the trend that Hornack, Farrell, and Jackson (2010) saw in dissatisfaction in college students who were working, because their financial hardships negatively impacted their engagement, well-being, relationships, return rates, and, ultimately, their graduation rates. This situation is exemplified by Svanum and Bigatti (2006) and their study that showed how students who spent more time on job activities had less time to dedicate to course effort, achieving lower course grades than their non-working peers.

It can be argued that many of these students were experiencing what Serido et al. (2014) saw in their study of financial stress that was unperceived ahead of time. Many of them were unaware of the financial toll that enrolling in college would take, and thus their behaviors were purely reactive and did not leave them the time or the capability of being proactive about managing their financial situation for future years. Salisbury et al. (2012) highlighted the

leadership benefits that working students attain from their jobs, but also agreed that curricular involvement can suffer, as well as peer interaction, by working too extensively off-campus.

Information on the college experience of commuting students is limited. Kim and Rury (2011) show that a larger number of students are now commuting, and the ability to commute has opened the door for social groups previously unable to attend college to participate. Each student's social and economic background contributes to their development in college, and is just as important as the environment at their college and whether or not they are commuting (Wawrzynski & Pizzolato 2006). Bozick (2007) shows that middle class students are the most likely to live at home during college and discussing how that can combine with other factors to impact their academic success. How these students manage their time and how it differs from students living on campus is not discussed, and there is no information about how this particular variable can impact stress or success in college.

Although all of these researchers have proven the detrimental effects that greater amounts of time spent working can have on students' college experiences, they have not gone deeper into analyzing the specifics of how these students spend the rest of their time. With the extra burden of having to allocate large portions of their day to working, these students are faced with a tighter budget of time that they have to divide between many activities other than academics, including family, friends, and personal care. Understanding what decisions working students make when it comes to their time is valuable information to better describe this sector of the college population.

Time Dedicated to Academics

Time management among college students is a broad topic that encompasses a wide range of activities and trade-offs. The issue of how much time students are allocating for academic work is a complicated area to analyze because of the variations in academic assignments across different colleges and disciplines, as well as the differences in course work from wee k to week and semester to semester, but it has been proven that, across the board, the number of hours that students spend on academics fell from 40 hours a week in 1961 to about 27 hours a week in 2003 (Babcock & Marks 2011). Babcock and Marks posit that this reflects that enrolling in college has less of an opportunity cost in today's world, as a result of advances in technology allowing for easier access to academic information. It has not yet been determined how continued technological improvements have affected this downward trend in study time since 2003.

This technology, aside from aiding access to information, also presents a competing share in students' time that can take away from academics, according to Hanson et al (2011). Students' academic success is aided by and impaired by their reliance on technology, because it provides "short cuts" for students with a time budget, but decreases their overall retention rates and, with them, their human capital, which is a conclusion that Babcock and Marks share.

The issue of distractions from academics tied to technology, such as social media, has become more of a problem in recent years. Panek (2014) argued that this is an issue, not because time with social media is negatively associated with time on homework, but because of the strain it puts on students mentally. The students with the lowest self-control experience feelings of guilt and stress because of their lack of productivity, a point that Reynolds (2013) confirms. Reynolds

presents the issues that student affairs administrators across the country see the most often as stressors and concerns for students, with stress management, time management, and academic difficulties ranking high on the list.

Throughout each semester, students have to make compromises about how they utilize their time, and exactly how much of it they will spend on academic work (Galbraith & Merrill 2012). Galbraith and Merrill (2012) explain that in order to manage "burn-out" over the semester, as well as their efficacy, students have to make a trade-off between work and academics because of the competing time demands of each field, which results in an overall dramatic increase in cynicism by the end of each semester. Aside from exhaustion and cynicism, the strain of how much time students allocate to academics has a significant negative impact on their final grades (Svanum & Bigatti 2006).

These researchers all are in consensus that greater amounts of time spent on academics aid students' course success, as well as their overall retention rates, leading to their improved satisfaction with their college experience and an increase in their human capital (Galbraith & Merrill 2012, Reynolds 2013, Svanum & Bigatti 2006). The changing atmosphere of colleges today, with many online and commuting students, and students who have to work to pay their way through college, has created a dynamic environment that challenges each student's time management skills. Students attending college for the first time are faced with an unfamiliar situation that, for many, gives them sole responsibility for their academic success, their financial commitments, and their time use, with little accountability or guidance, but with harsh consequences if they fail to rise to the challenge. To better understand this generation of college

students, it would be beneficial to look at the break down of how different groups use their time, and what factors impact how much of it that they spend on academics.

RESEARCH QUESTIONS

The information provided by previous research leaves a number of unanswered questions, which provide the outline for this study. Although this research could have focused on pursuing answers to the many aspects of the time use of college students, this research will be seeking to answer three specific questions.

1. Is there a demographic difference between working and nonworking college students?
2. Is there a difference in the time use activities of working and nonworking college students?
3. How much does work time affect how much time students spend on other activities?

College students are an important demographic and represent a significant part of the population. Understanding the answers to these questions could lead to changes in how colleges are run and how the government handles grants, loans, and even minimum wage laws. The well-being of students in college can impact their confidence, mental health, and behavior as they handle their present responsibilities as well as when they enter the next stages of their lives. Taking this into account is vital to show the importance of studying the time use of college students, beyond the immediate evidence of the results of their time management decisions.

METHODOLOGY

To answer these questions, the most inclusive strategy was to use a time use study. Time use is a highly varied and complex area of research, but by using a time use study, it is possible to obtain larger quantities of data for analysis, with the most specific results. Qualitative surveys would provide more insightful information about the motivation behind students' behavior, but a qualitative study was not feasible given the time constraints and necessary scale of the survey to provide a descriptive understanding of the whole of each student group. This research was conducted using a time use study because it provided the most detailed questions with the widest range of respondents within the boundaries of feasibility.

Time Use Studies

Time use studies can contain quantitative or qualitative data detailing aspects of the activities an individual has partaken in during the course of a set period of time. These studies measure time use at various intervals, including each hour of the day and a summary at the end of each week. Some time use studies produce rough estimates, while others are more exact. When combined with the demographic information of the participants, time use studies provide a descriptive image of the behavior of the sampled population.

Time diaries in which individuals keep their own accounts of their time use over a short period allow for a more accurate picture of their behavior and eliminate the need for estimation or observation by a third party (Bianchi et al 2006). Individuals keep a nightly log of the schedule of their previous twenty-four hours. This type of time use study is precise because of

the interval in which activities are measured. The daily log minimalizes errors in estimation, which makes these studies reliable and valid.

One such time diary is the ATUS, the American Time Use Survey (http://www.bls.gov/tus/). This survey, ATUS, contains data from 2003 to 2013 obtained through interviews of 148,000 individuals on how they use their time, recorded in minutes, from day to day, 4 a.m. to 4 a.m. It is conducted by the U.S. Census Bureau, sponsored by the Bureau of Labor Statistics, the BLS, and is published annually. ATUS is a nationally representational sample with an online database containing data sets for each year. Respondents are notified that they will be receiving a telephone call from the BLS with a pamphlet describing what a time diary is and the purpose of the survey. Each respondent then provides their time use data through a prompted telephone call, which is recorded and then coded for by activity. There are a number of broad variables, such as "Personal Care," "Educational Activities," and "Traveling." These can be analyzed as either one variable, or subdivided into the smaller activities coded as being part of this group, such as dividing the larger group of "Household Activities" into the more specific actions of doing dishes, animal care, warming up the care, or sweeping the steps, for separate analyses.

Sample and Procedure

This data was utilized to study college students by extracting a "small pool" of college students from the sample by using ATUS-X, the American Time Use Survey Extract Builder (https://www.atusdata.org/atus/). This is a project created with ATUS to allow easier access to

the data sets for researchers. It is publicly available with no fee for creating an account, which can then be accessed at any time. It creates extracts and allows for the data to be combined and sorted across different variables. ATUS-X was used to select a sample of students to analyze the differences in behavior between the time uses of different types of students. The pooled sample includes the years 2010 to 2013 to ensure that the data examined was the most recent data available. The data pulled from this project was analyzed using SPSS to compare the different demographic groups, to compare the means of the time use activities of working and nonworking students, and to run analyses of time use activities regressed on work time.

The sample taken from the data sets of the years 2010 to 2013 was restricted to college students between the ages of 18 and 24 because this study seeks to understand the average college student, with the understanding that this age range accounts for the students typically attending two or four year institutions, as well as to limit to effect of outliers such as older students returning to college who have already held careers or who have families of their own. The original intention of this study was to focus on working and commuting students, but information on commuting students was not available in the data set because of the nature of ATUS; because it is a census-based survey, respondents might indicate their living situation as being at home because living on campus is not a permanent situation. After restricting the data according to these limitations, the remaining sample size was 1,184 respondents.

Variables

The independent variables used are the students' work status- working students and nonworking students- and if they are working, whether they are working full time or part time. The categories are broken up into two main groups for comparison: working and nonworking students. The sample was divided into these categories to inspect each independent variable and its effects separately. Because ATUS is a census-based survey that contacts people in their homes, it was not possible to determine which students were commuting to school or living on campus, preventing an analysis of the comparison between working students who live at home and nonworking students who live on campus to determine if living on campus has an effect on students' time use activities.

Dependent variables include a range of time use categories, encompassing activities outside of work. These categories are aggregates of time spent in minutes, and were analyzed to determine if a student's time spent on work, or the lack thereof, effects the time that they spend on these other activities, the dependent variables. These variables are defined by ATUS-X clearly to ensure that there is no overlap between activities. The time use activities used for this study include (https://www.atusdata.org/atus/):

- Personal care: The time that a respondent spends on "sleeping, grooming, providing self-care, and doing sexual activities."
- Household activities: The time that a respondent spends on maintaining their home, which can include "housework, cooking, yard care, pet care, vehicle maintenance and repair, and home maintenance, repair, decoration, and renovation," as well as "household management and organizational activities."

- Educational activities: “Taking classes as well as doing other educational activities, including research and homework, administrative tasks, and extracurricular activities except sports.”
- Socializing, relaxing, and leisure: “Socializing includes face-to-face social communication with others and hosting or attending parties, receptions, ceremonies, and meetings[…] Leisure activities include relaxing; playing computer, board, or card games[…]; watching television; using a computer or the internet for personal interest; playing or listening to music; reading; writing; and all hobbies.”
- Sports, exercise, and recreation: How much time the respondent spends on “participation in sports, exercise, and recreational activities. Recreational activities include those that are generally non-competitive in nature, such as pleasure boating, throwing a Frisbee, kite flying, or ballooning, and active, participatory outdoor games or activities, such as horseshoes, croquet, and paintball. The category also captures the respondent's attendance at or observation of these activities or events when done by others.”
- Volunteer activities: Time spent on “volunteer (unpaid) activities done by the respondent for individuals or institutions through formal organizations.”

After running the preliminary analyses of comparison and determining which time use activities had statistical differences between working and nonworking students, the categories of “personal care” and “educational activities” were broken down into smaller categories to look at the specific time uses involved in those larger groups. “Personal care” was separated into two new categories, titled “Sleeping,” which included only the activity of sleeping, and “Personal

care (not sleeping)," which included grooming, providing self-care, and doing sexual activities. "Educational activities" was separated into "Classes" and "Homework," with "Classes" only including the activity of attending class, and "Homework" including research, homework, administrative tasks, and other extracurricular activities not including sports.

Control variables used include gender, race, family income, and age. These demographic descriptors were isolated because of their potential influences on students' college experiences. For the purpose of the regression analysis, the variable of "Race" was recoded into four different "dummy" variables- White, Black, Asian, and Hispanic. Because ATUS is a nationally representational sample, it is necessary to weight for each student's demographic differences to ensure an accurate picture of the direct effects of a student's work status on the dependent variables. This accurate depiction of variable weight was ensured by using a weighting variable accessible through ATUS-X when conducting the analysis in SPSS.

This analysis provided information on how students are impacted by their background- what choices they have to make to balance the factors in their life, such as socioeconomic status, that are not in their control. The interaction between the independent variables and the dependent variables was able to provide a picture of the variations in the college student demographic, as well as how each group of students experiences college and manages their time while enrolled.

Analysis Plan

The first step in this study was to determine the frequencies and percentages of the demographic characteristics of the two groups of students, working and nonworking. By using a weighting variable, it was also possible to determine the percentages of the total population.

These numbers were then compared between working and nonworking students and then each group was compared to the total population.

To determine the differences in time use between working and nonworking students, the mean times spent on each of the dependent variables were compared, and also tested for significance at a p-level of $p < .05$ or less. Whether or not a student was working full time or part time was then used as an independent variable, and tested for significance. The dependent variables that showed significance at a p-level of $p < .05$ or less when a student was working full or part time were then selected for a regression analysis.

The dependent variables that were significant for full or part time working students were then each regressed on working hours. Each of them was run with age, race, gender, and family income as control variables to determine if they had an effect. If the control variables did not affect the results, they were left out of the final regressions.

FINDINGS

Demographic Comparisons

To address Question 1, Table 1 provides the sample characteristics for the data, after eliminating all cases below the age of 18 and over the age of 24, as well as any cases where the respondent was not a college student. The percentages are weighted using a weighting variable accessible through ATUS-X to describe the whole population. The frequencies are not weighted, listing only the numbers obtained in the sample.

By comparing each group's percentages, working and nonworking students, to the total population percentages, as well as by comparing the two groups to each other, the demographic differences can be seen. In each demographic category there are differences between working and nonworking students, but the greatest disparities between the two groups are in the ratio of males to females, and in the full and part time students. The data indicates that for working students, women hold the majority by 9.8%. For nonworking students the ratio is more evenly balanced, although males hold the majority by 3.4%.

In the categories of full time students and part time students, the data in Table1 shows that working students fall behind the national average for being full time students by 4.9%. Nonworking students surpass the national average in this category, and have an 11% higher average than working students. The differences in the part time students category show an opposite pattern. There are 4.9% more working students who are part time in school than the total population average, whereas there are 6.1% less nonworking students who are part time in school than the total population.

Median Family Income was omitted from Table 1 because it was, surprisingly, the same for both working and nonworking students. It was expected that working students would have a lower family income because that would explain their need to work to be able to cover their college finances, but that data shows that this was not the case.

Table 1: Sample Characteristics (Percentages and Frequencies^)

	Total Population	Total Sample Frequencies	Working Students		Nonworking Students	
	Percent		Percent	Frequency	Percent	Frequency
Male	48.1%	528	45.1%	287	51.7%	241
Female	51.9%	654	54.9%	378	48.3%	276
Black	12.4%	186	11.4%	99	13.6%	87
White	59.9%	665	65.0%	402	53.5%	263
Hispanic	18.8%	244	17.8%	130	19.9%	114
Asian	7.2%	68	4.4%	23	10.7%	45
Full time students	80.8%	938	75.9%	500	86.9%	438
Part time students	19.2%	244	24.1%	165	13.1%	79
Works full time	19.0%	239	34.0%	239	___	___
Works part time	38.5%	427	66.0%	427	___	___

^Percentages are weighted to the population. Frequencies are not.

Mean Time Use Comparisons

Addressing Question 2, Table 2 is a comparison of the mean hours spent on each time use activity by working or nonworking status. Each time use activity was recoded in SPSS from minutes to hours. “Educational activities” and “Personal care” were recoded through ATUS-X, with the retitled categories, “Classes” and “Homework” and “Personal care (not sleeping)” and “Sleeping” replacing them in the time use activities list. The mean times spent on each activity, as well as the standard error (shown in parentheses), were determined using an independent samples two-tailed t-test.

There were three categories where the mean times that working students spent were higher than or equal to what nonworking students spent: personal care (not sleeping), extracurricular activities, and volunteering. The t-test showed, however, that the differences in extracurricular activities and volunteering were not statistically significant, and the time spent on those activities was so low that they did not carry much weight compared to the other time uses. The time use activity of sports, exercise, and recreation held no statistical significance between the working and nonworking groups, and represented half an hour or less of time use.

Working students held a higher mean time spent on personal care (not sleeping) with significance at a p-level of $p<.05$. This was the only variable where working students spent a significant amount of time more than nonworking students on any time use activity, although this difference amounts to working students spending just under 8 minutes more on personal care. Working students spend on average per day 52.2 minutes on personal care and working students spend 44.4 minutes ($p< .05$). At this p-level, this was the weakest relationship seen.

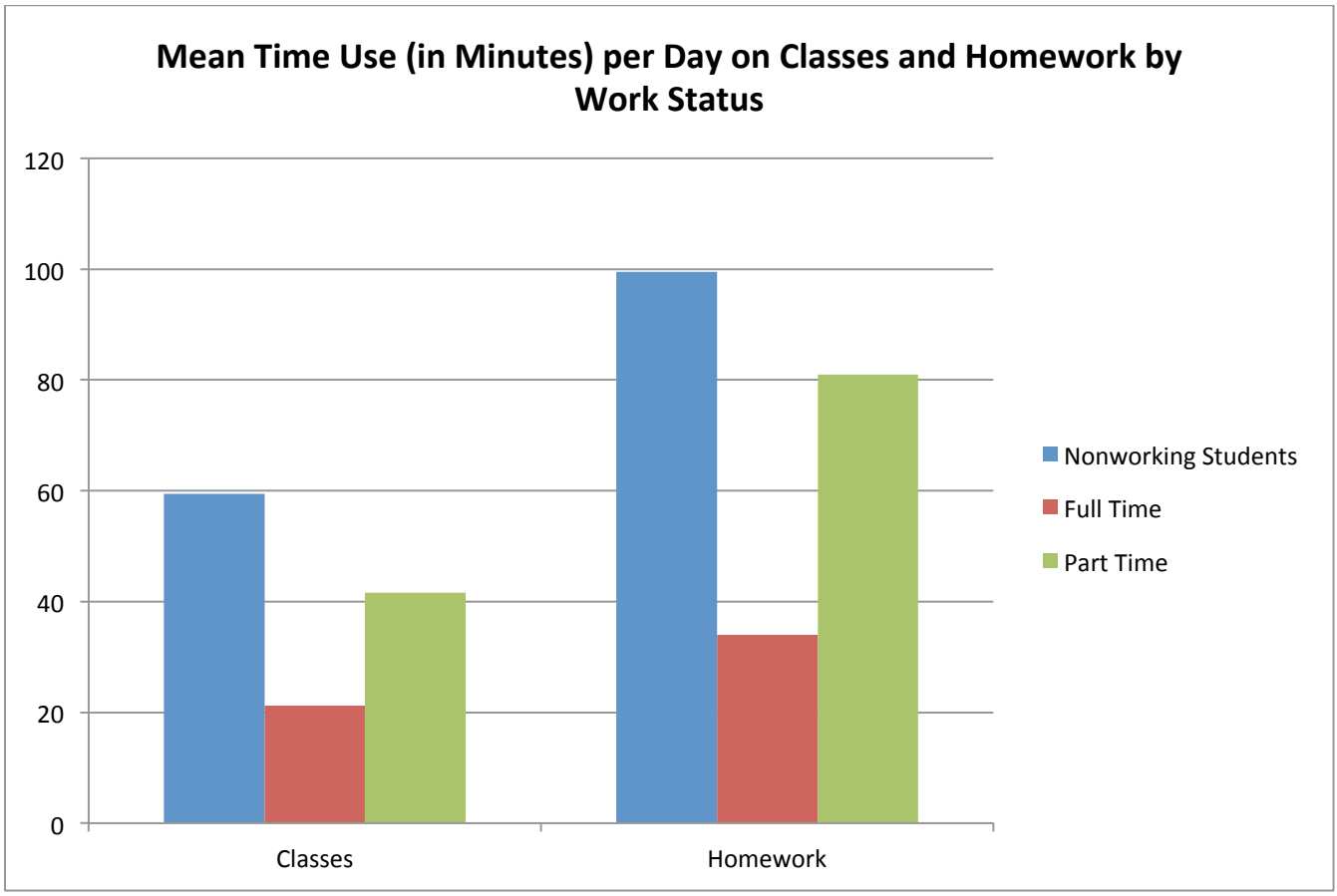
Table 2: Comparison of Mean Time Spent (in Hours)

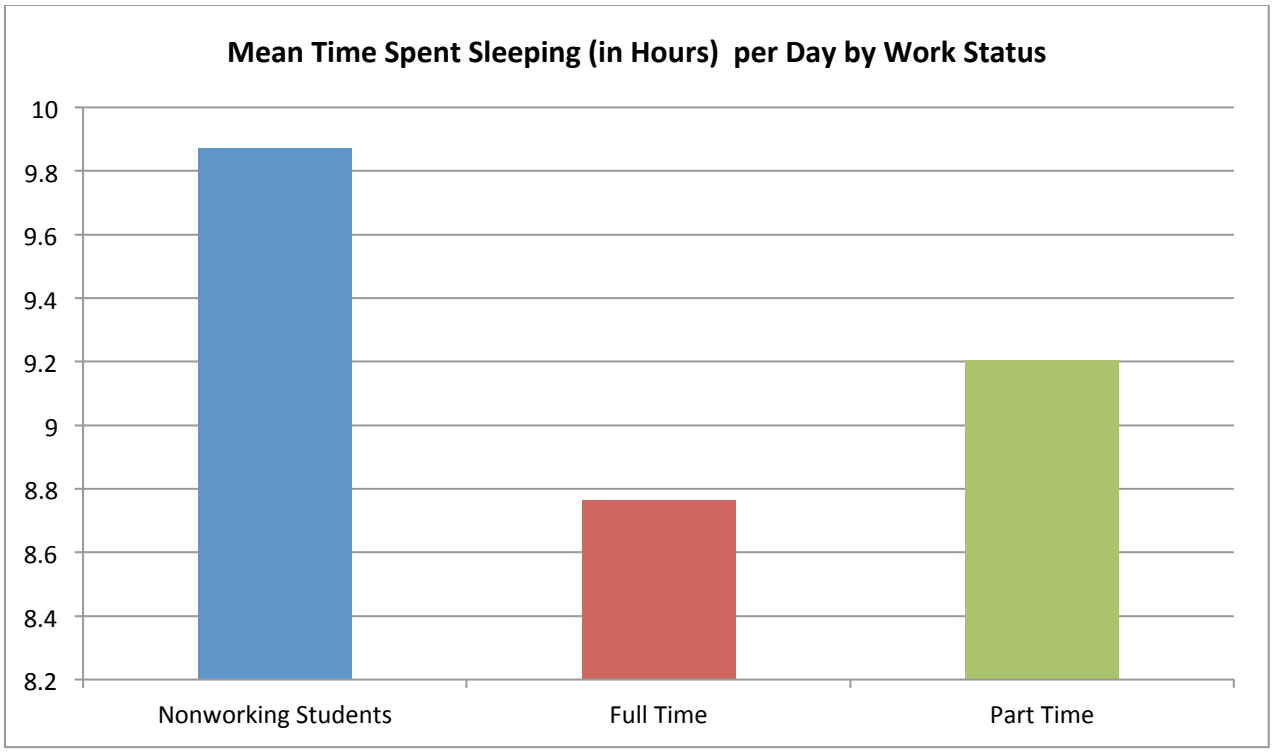
	Working	Nonworking	Significance	Full or Part Time Significance
Classes	0.58 (1.52)	1.00 (2.02)	.000***	.001***
Homework	1.07 (2.05)	1.66 (2.61)	.000***	.000***
Personal care (not sleeping)	0.87 (0.98)	0.74 (0.80)	.012*	___
Sleeping	9.00 (2.42)	9.87 (2.41)	.000***	.027*
Relaxing and leisure	2.93 (2.70)	3.87 (3.13)	.000***	___
Caring for and helping household members	0.20 (0.83)	0.39 (1.23)	.003**	___
Household activities	0.79 (1.28)	1.01 (1.57)	.004**	___
Socializing	1.10 (2.05)	1.23 (2.10)	___	___
Volunteer activities	0.10 (0.60)	0.10 (0.63)	___	___
Extracurricular activities	0.02 (0.26)	0.00 (0.04)	___	___
Sports, exercise, and recreation	0.37 (1.01)	0.52 (1.22)	___	___

*p< .05, **p< .01, ***p< .001

The rest of the time use activities show means that are lower for working students than for nonworking students at significance levels of $p<.01$ or $p<.001$. The strongest significance levels were for classes, homework, sleeping, and relaxing and leisure. In terms of class time,

nonworking students spend an average of 1 hour a day, while working students spend just over half an hour, or 34.8 minutes ($p < .001$). In terms of time spent on homework, nonworking students spend 1 hour and 40 minutes on average per day, while working students spend 1 hour and 4 minutes ($p < .001$). In terms of time spent sleeping, nonworking students spend an average of 9.87 hours a day, and working students sleep for 9 hours, a full 52.2 minutes less ($p < .001$). In terms of time spent on relaxing and leisure, nonworking students spend 3 hours and 52 minutes a day, while working students spend almost a full hour less, with 2 hours and 55 minutes on average per day. This data could be skewed because the surveys are conducted year-round, including weekends and summers, which would impact the time spent on all three of these categories.





Caring for and helping household members also showed a significant difference between working and nonworking students, although the average times for both groups was under and hour- 23.4 minutes for nonworking students, and 12 minutes for working students ($p < .01$). Nonworking students spend an average of 1 hour on household activities per day, while working students spend 47.4 minutes ($p < .01$).

At this point an additional independent samples two-tailed t-test was run, but this time adding the variable of whether working students were working full or part time. This analysis showed no significance for personal care (not sleeping), relaxing and leisure, caring for and helping household members, household activities, or socializing, where there had been significance in the original analysis. It did show, however, a strong relationship in the time use activities of classes, homework, and sleeping, at a p-level of $p < .05$ or less. The strong

significance shown for these three activities indicates that they are impacted by how many hours a student is working.

Regression Analysis

In order to address Question 3, it was necessary to determine the degree to which working hours affects the amount of time that students spend on classes, homework, and sleeping by performing a regression analysis on these three time use activities by working hours. A linear regression was performed with the control variables of age, gender, race, and family income to determine if those variables had a significant impact on each individual time use activity. The only control variable that had any significance was age, and that impact was only seen for time spent on sleeping. For the purpose of ease of interpretation, the regressions with Homework and Classes were run in minute intervals. Because Sleeping is a more time consuming activity, it was analyzed as a recoded function of hours.

Table 3 shows the simple regression, without the control variables listed, of classes on working hours. The constant, "B," or Beta, is 46.11, which is the average of how many minutes a student would spend in class per day when Working Hours = 0. For every hour that a student works, they will spend 3.17 minutes less in class. Class hours are the least flexible time use activity out of all of the ones analyzed, in both Table 2 and in the regressions, which accounts for the small impact that working hours has- once a student has committed to a schedule for the semester, it stays the same, while working hours can change weekly.

Table 3: Classes Regressed on Working Hours

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.131[a]	.017	.016	90.33269

a. Predictors: (Constant), Working hours

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	46.105	4.771		9.664	.000
	Working hours	-3.168	.927	-.131	-3.417	.001

a. Dependent Variable: Classes

The R^2 variable of 0.016 shows that 1.6% of the variation in time spent in class is caused by how many hours are worked. Although this is a low percentage, it does not dismiss the effect of working hours on class time because time use studies are looking at minutes in a day, so the variations are very high.

The constant for time spent on homework is 87.46 minutes, or about 1 hour and 46 minutes, as seen in Table 4. This time, unlike time in class, is not scheduled ahead of time, and is thus more easily influenced by other factors, especially work time. For every hour worked, students spend 6.70 minutes less on their homework. The R^2 value for this regression shows that 4.1% of the variations in time spent on homework is caused by time spent working, which is, although still a small percentage, considerably higher than the R Square value for time spent on classes.

Table 4: Homework Regressed on Working Hours

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.206[a]	.042	.041	120.36349

a. Predictors: (Constant), Working hours

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	87.458	6.357		13.758	.000
	Working hours	-6.704	1.235	-.206	-5.427	.000

a. Dependent Variable: Homework

Table 5 displays the effects of both working hours and age on hours spent sleeping. The constant in this table is 11.92, which describes the average sleep time of a nonworking, 18 year old college student. Age is significant for this regression. For each year older that a student is, they get 6.18 fewer minutes of sleep. For each hour that a student works, they sleep for 12.40 minutes less. The combined variables of hours spent working and age make the R^2 variable much higher than the other two variables, at 11.3%. This follows with the pattern that 18 year old college students are mostly freshmen who have not yet acclimated to the routine of a college class and possible work schedule. As students get older and progress into the more difficult classes for their majors, they are more likely to develop more responsible behaviors of valuing success, in both academics as well as at work, higher than they value the extra time spent sleeping.

Table 5: Sleeping Regressed on Working Hours and Age

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.339[a]	.115	.113	2.27993

a. Predictors: (Constant), Age, Working hours

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.924	.868		13.738	.000
	Working hours	-.207	.023	-.323	-8.824	.000
	Age	-.103	.040	-.093	-2.547	.011

a. Dependent Variable: Sleeping hours

Finally, Table 6 summarizes Tables 3, 4, and 5 to show how much time spent on classes, homework, and sleeping is impacted by hours spent working. The constant is the time that an 18 year old, nonworking student would spend on each time use activity per day. "B" is the time in minutes that each time use activity loses per hour worked.

Table 6: Classes, Homework, and Sleep Regressed on Working Hours (Simple)

Dependent	**Constant**	**B**	**SE**	**Adjusted R^2**
Classes	46.11 (minutes)	-3.17	0.93	.016***
Homework	87.46	-6.70	1.24	.041***
Sleep	11.92 (hours)	-12.40 (minutes)	0.04	.113***
*p< .05, **p< .01, ***p< .001				

DISCUSSION

According to the comparison of the data, there are statistical differences in the demographics of working students and nonworking students. The only two categories that were within a range of plus or minus 1% from the national numbers were Black and Hispanic working students. Every other demographic variable for the working and nonworking groups differed from the national average and from each other. This shows the diversifying impact that college has, it is an institution that has historically been for a privileged group, and thus, even as more students are going to college, there is an effect on who chooses to enroll and how they go through with their college experience.

The median "Family Income" variable was the same for both groups, $40,000 to $49,999, so it was not listed on Table 1. Because there was no difference in median family income between working and nonworking students, it does not help us understand which students would be working and which students would be nonworking.

The demographic table also shows that White students are overrepresented in the working group whereas Black, Hispanic, and Asian students, in particular, are underrepresented, according to comparison with the national percentages. In the nonworking group, the representation is exactly the opposite, with Black, Hispanic, and Asian students overrepresented and Whites underrepresented. Still, White students hold the majority in each group. There are numerous possible explanations for these differences in racial groups, including possible cultural values, disparities in scholarships, or by the nonworking students choosing to take out more loans rather than pay off their tuition as they go, in accordance with the trend that Dwyer et al. (2012) saw with the privatization and increased use of loans to pay for college. Due to the

quantitative nature of this study, however, it is not possible to make any assumptions about these differences.

Although the majority of both working and nonworking students are full-time college students, there are still significant differences between them. Working students fall behind the national average of full-time students whereas nonworking students are ahead of it. The variable of part time students shows an opposite pattern- the percentage of part-time working students is higher than the national average, and the percentage of part-time nonworking students is lower than the average. This effect can be explained by the necessity of balancing work and college courses; working students need to make compromises of how they allocate their time, making being a full-time student and a full-time worker difficult. Of the students who are working, the majority are part-time workers, which goes hand-in-hand with the explanation for the need for some students to attend college part-time.

The question of whether or not working and nonworking students spend their time differently is a clear "yes," as shown in Table 2. Working students have less time available to commit to other time use activities, which can be seen by working students' mean times in the categories of classes, homework, sleeping, relaxing and leisure, caring for and helping household members, and household activities. The only time use activity that working students spend more time on than nonworking students that is significant is personal care (not sleeping), which could be from additional time spent grooming in preparation for work or after work.

Relaxing and leisure is impacted by whether or not a student is working, but not by how much a student is working. This suggests that the additional commitment of having a job while

enrolled in college is enough to cause students to limit the time that they spend on relaxing and leisure because they are not one of the students' top priorities.

Once a student has committed to a class schedule for a semester, it becomes a routine, which explains why working students and nonworking students spend different amounts of time in class. If a student already knows how many hours a week they are going to work during the semester, they will choose class times to fit their schedule and are more likely to choose a lighter course load than nonworking students who do not have to budget their time as strictly. If a student begins working during the middle of a school semester or the time that they spend working increases or decreases, their class schedule stays the same unless they decide to drop or withdraw from a class, which also explains the difference in class time between the two student groups.

The difference in the mean times that working and nonworking students spend sleeping follows with this pattern of the tradeoffs between time use activities as a consequence of prioritizing responsibilities. It can be assumed that there are certain time use activities that are going to remain the same for every day for both working and nonworking students, such as time spent eating and drinking, because they are essential activities that cannot be done without. Although class schedules stay the same for each semester, there is still a degree of flexibility to what schedule students can choose to make. Time spent sleeping, however, is a very versatile variable because it can take up such a large portion of a 24 hour day. When students are faced with a limited amount of time to complete a range of activities, such as a class project, a sports event, a pre-planned social gathering, or a long work day, instead of not completing one of these activities they will choose to instead sleep less; still fitting all of the activities into 24 hours, but

eliminating a large amount of time spent sleeping. This is a choice that students have to make on various occasions and, according to the data, increases with age and the additional responsibilities that come with it.

Although not specified in Table 2, the use of technology, such as social media, is included in the category of "Relaxing and Leisure," which indicates that working students also spend less time using social media devices than their nonworking peers. This could be because of the stress and guilt that Panek (2014) saw students experience when they wasted time on social media when they had homework to complete. Working students are faced with a tighter budget of time than nonworking students, so they could experience more guilt and stress for wasting the little time that they have available.

All students are faced with the same number of hours in a day, although each student has a different amount of activities that they need to complete in that time. Working and nonworking students show clear disparities in their budgeting of time use activities, but within the working students category there are differences as well. Whether a student is working full time or part time gives two new groups for comparison. The comparison of the mean times that working and nonworking students spend on time use activities shows the difference in the average times that these students budget to each category, whereas the regression analyses explain the third research question of how much working time affects other time use activities. The regressions for classes, homework, and sleep on working hours allow for predictions of how much time working students will spend on these activities.

Nonworking students will spend an average of 46 minutes in class, 1 hour and 46 minutes on homework, and, for 18 year old students, 11.92 hours sleeping a day. This data is somewhat

skewed because it also takes into account weekends, where students might sleep longer. By multiplying these variables by 5, an average school week, it is possible to determine the total times that a student would spend on each activity. At the end of a school week, an average nonworking, 18 year old student will have spent 3.84 hours in class, 7.04 hours on homework, and 59.62 hours sleeping (again, the data for sleep might not accurately depict a school week sleep schedule). If a nonworking student was at the other end of the allowed age spectrum, 24, they would sleep for 59.0 hours.

To see the extent of the impact that working has on these time uses, it is beneficial to put the times in context. If a student were to work part-time hours, 20 hours in a school week, for example, they would spend only 2.79 hours in class, 4.80 hours on homework, and 55.48 hours sleeping (if they were a 24 year old student, they would spend 54.86 hours sleeping).

It is necessary to also note the impacts of working a full-time schedule, which is considered to be 35 hours a week. These students would spend 1.99 hours in class, 3.13 hours on homework, and 52.38 hour sleeping (51.76 hours sleeping for 24 year olds). A 24 year old working student would spend 1.85 hours less in class, 3.91 hours less on homework, and 7.86 hours less sleeping than the 18 year old, nonworking student. This is a considerable amount of time to be deducted from an academic schedule, as well as from a sleep schedule. Both of these, class work and sleep, are important factors for student success and are impeded by any increased amount of time spent working.

These numbers give a better picture of the schedules of working and nonworking students, although there is some variation that could be caused by when the interviews of the respondents were conducted. Some interviews were conducted on weekends and during the

summer months, which can affect time spent in class, on homework, and sleeping. Although some college students do choose to take summer courses, summer schedules often differ greatly from the schedule of the regular academic year, which could explain why the data shows a constant of only 46 minutes spent in class a day, when many students will spend several hours in class during a typical semester. The same effect applies to the amount of time spent on homework as well. Sleep hours could be affected by data supplied by respondents during the summer as well because if these students were not taking classes and working at the same time, it is likely that they would have more time available to sleep that they might not be able to afford during the school year.

This is important information to consider when attempting to understand the time use behaviors of college students. There are tradeoffs of activities that need to be made in a 24 hour day, and working can take up a significant portion of that time. Those students who are working, by choice or by necessity, have less time to allocate to academics, including classes and homework, which, as Galbraith and Merrill (2012) pointed out, can lead to exhaustion and cynicism overall. These students not only spend less time on more "trivial" time uses such as relaxing and leisure, but things such as their own personal care, the act of sleeping, suffer greatly as well. Hornack, Farrell, and Jackson (2010) showed the negative effects that this type of behavior can have on the mental well-being of students who are put in the position of needing to work in college, which can be explained by these students' lack of time to spend on time use activities that would be beneficial to their overall well-being, such as more time to relax or sleep.

This information puts the experience of working college students into a new perspective. Understanding the choices that these students have to make with their time could impact how

colleges and loan providers treat working students. By treating working students and nonworking students as if they are part of the same group, these authorities are neglecting the issues at hand. Although it would not be fair to give working students special privileges, such as extended class deadlines or discounted loan rates, by looking at the new information about the changes in student demographics modifications could be made to the educational system that would benefit the college experience for students overall. Increased availability of financial aid in the form of scholarships or grants, lowered textbook costs, lowered tuition costs, or even just the revision of the high loan rates that students face, although not easy to provide or full solutions, could be a good place to start.

College students are not all working because they enjoy the thrill of waiting tables or because of the joy they get from working in customer service at a grocery store. They are working because college is expensive, but they need a college degree in order to land a career that will get them out of waiting tables or working in customer service. By understanding this simple fact, along with the information provided by this research, it is easier to see why working students make the compromises with their time that they do. Each individual has to make their own decisions about how they are going to spend their time based on their needs and responsibilities. What they make their priority impacts the activities that are lower on the list. Working students and nonworking students have different obligations, resulting in different time use activities. Previous research has shown that working students suffer from stress, exhaustion, lower course grades, and possibly even failure to graduate. This study shows that working students spend their time much differently, and that time spent working directly affects how working students spend their time on academics and the basic need for sleep. Students cannot do

everything that they need and want to do, not for lack of trying, but because they simply don't have the time.

LIMITATIONS

There are limitations to this study. It was not possible to attain information on commuting and non-commuting students, as was the original intention of this research, because of the nature of the ATUS. ATUS is a census-based survey that contacts people in their homes, and while there is a listing for students living on campus, because the academic year is not a full calendar year, all but 2 of the respondents as living somewhere other than on campus. This made it impossible to distinguish the commuting students from the non-commuting students for a comparison of any kind.

It was also not feasible to determine the well-being of the working and nonworking students. Although ATUS did have questions about respondents' well-beings in the survey years of 2010 to 2013, the data was listed in a complex hierarchical format that would have required additional recoding.

This data analyzed for this study was quantitative in nature, which prevents further insight into the complexities of the time use activities that working and nonworking college students are engaging in. Although for the purpose of this study, quantitative data was ideal, a qualitative approach could provide a more complete description of the tradeoffs that students make with their time.

The inclusion of summer months and weekends also limited the data because it skewed the numbers. Students do not spend the same amount of time on classes, homework, and sleeping during the weekends and summers as they do during a typical weekday during the school year. Although the data provided in this study is still an effective description of working and nonworking students, it did not distinguish these differences.

IDEAS FOR FUTURE RESEARCH

There is much room for expansion upon the information provided by this research. A more expansive project in the future could be to endeavor to recode the hierarchical well-being responses available through ATUS-X to determine how various well-being factors are impacted by working and nonworking status, and if they are working, how much time they spend working.

The issue of how commuting students spend their time compared to resident students would be another important topic to branch into. Because ATUS does not have this information available, new surveys would have to be conducted on college students to attain the data. As Kim and Rury (2011) state, there are growing numbers of commuting students, which makes this segment of the population a new and important area for study. It is possible that time spent commuting has a similar effect on time use activities as time spent working does.

Seeking to separate the weekends and summer days from the study could also yield interesting insights into seasonal workers and the different impacts that time of week and year has on time use activities. It would also be interesting to look specifically at time spent on technology and how that is impacted by a student's work status.

The combination of these two topics, studying how the well-being of college students is affected by their time use, and how their time use is affected by their working and commuting status, would answer the questions that this research originally sought to answer. These are questions that have thus far not been asked in the sociological research of college students. This is a more productive topic for discussion than the already weary topics of college students' binge drinking habits or their time spent on social media. Work and commuting status and their impacts on well-being are a new area for study that would pair with that data presented in this research to provide a broader and fuller understanding of the differences in college students in today's society.

REFERENCES

Babcock, Philip, and Mindy Marks. 2011. "The Falling Time Cost of College: Evidence from Half a Century of Time Use Data." The Review of Economics and Statistics 93(2): 468-478.

Bianchi, Suzanne M., John P. Robinson, and Melissa A. Milkie. 2006. *Changing Rhythms of American Family Life.* ASA Rose Series. New York: Russell Sage.

Bozick, Robert. 2007. "Making It through the First Year of College: The Role of Students' Economic Resources, Employment, and Living Arrangements." *Sociology of Education* 80(3): 261-284.

Dwyer, Rachel E., Laura McCloud, and Randy Hodson. 2012. "Debt and Graduation from American Universities." *Social Forces* 90(4): 1133- 1155.

Galbraith, Craig S., and Gregory B. Merrill. 2012. "Academic and Work-Related Burnout: A Longitudinal Study of Working Undergraduate University Business Students." *Journal of College Student Development* 53(3): 453-463.

Hanson, Trudy L., Kristina Drumheller, Jessica Mallard, Connie McKee, and Paula Schlegel. 2011. "Cell Phones, Text Messaging, and Facebook: Competing Time Demands of Today's College Students." *College Teaching* 59: 23-30.

Hornack, Anne M., Patricia L. Farrell, and Natalie J. Jackson. 2010. "Making It (or Not) on a Dime in College: Implications for Practice." *Journal of College Student Development* 51(5): 481-495.

Kim, Dongbin, and John L. Rury. 2011. "The Rise of the Commuter Student: Changing Patterns of College Attendance for Students Living at Home in the United States, 1960-1980." *Teachers College Record* 113(5): 1031-1066.

Panek, Elliot. 2014. "Left to Their Own Devices: College Students' 'Guilty Pleasure' Media Use and Time Management." *Communication Research* 41(4):561-577.

Reynolds, Amy L. 2013. "College Student Concerns: Perceptions of Student Affairs Practitioners." *Journal of College Student Development* 54(1): 98-104.

Salisbury, Mark H., Ernest T. Pascarella, Ryan D. Padgett, and Charles Blaich. 2012. "The Effects of Work on Leadership Development Among First-Year College Students." *Journal of College Student Development* 53(2): 300-324.

Serido, Joyce, Soyeon Shim, Jing Jian Xiao, Chuanyi Tang, and Noel A. Card. 2014. "Financial Adaptation Among College Students: Helping Students Cope with Financial Strain." *Journal of College Student Development* 55(3): 310-316.

Svanum, Soren, and Silvia M. Bigatti. 2006. "The Influences of Course Effort and Outside Activities on Grades in a College Course." *Journal of College Student Development* 47(5): 564-576.

Wawrzynski, Matthew R., and Jane Elizabeth Pizzolato. 2006. "Predicting Needs: A Longitudinal Investigation of the Relation between Student Characteristics, Academic Paths, and Self-Authorship." *Journal of College Student Development* 47(6): 677-692.